

## CONCLUSIONS

- The food pattern described in this analysis suggests that the red deer's diet in the National Reserve of Hunting of Boumort is closer to the central European pattern from the one in Mediterranean environments.
- Graminoids and woody plants are the more abundant components in the diet → mixed feeders.
- There is seasonal variation, being the winter the most hostile period and the summer the time when the consumption of forbs and herbaceous reaches its maximum.

## INTRODUCTION

- The high densities of population and larger distribution areas of red deer in Catalonia may have an impact on the functioning of agrosilvopastoral ecosystems and their agricultural, forestry or livestock use.
- Several studies have been conducted on their eating habits, especially the populations of the Mediterranean region , but the diet in the Pyrenees region is yet to be described.
- Large capacity to adapt its consumption to the different temporal, geographic or spatial changes according to the availability of food.

## AIMS

The deer's diet in the north of the peninsula are poorly described, and are likely to be more similar to Central European populations. This situation leads us to:

- Describe the composition of the diet in a pre-Pyrenean population.
- Determine whether there is seasonal variation and how this is characterized.



Figure 1. Map of the National Reserve of Hunting of Boumort located in the Catalan western pre-Pyrenees.

Source: Vissir3 from Cartographic and Geological Institute of Catalonia.

## MATERIAL & METHODS

- Study area:** National Reserve of Hunting of Boumort with a density of 5,21 individuals/km<sup>2</sup>.

- Stomach samples were recollected during the 2017-2018 hunting season / Faecal samples were recollected during the summer.  
→ **2 male samples/season**

- Micro-histological analysis:** 3 preparations/individual were prepared in order to identify the epidermis using a reference collection:

200 fragments/individual

- Main characters identified:**

- Morphology of epidermal cells
- Stomas
- Trichomes



Figure 2. Epidermal fragment of *Solanum tuberosum*, with segmented thricomes.

## RESULTS & DISCUSSION

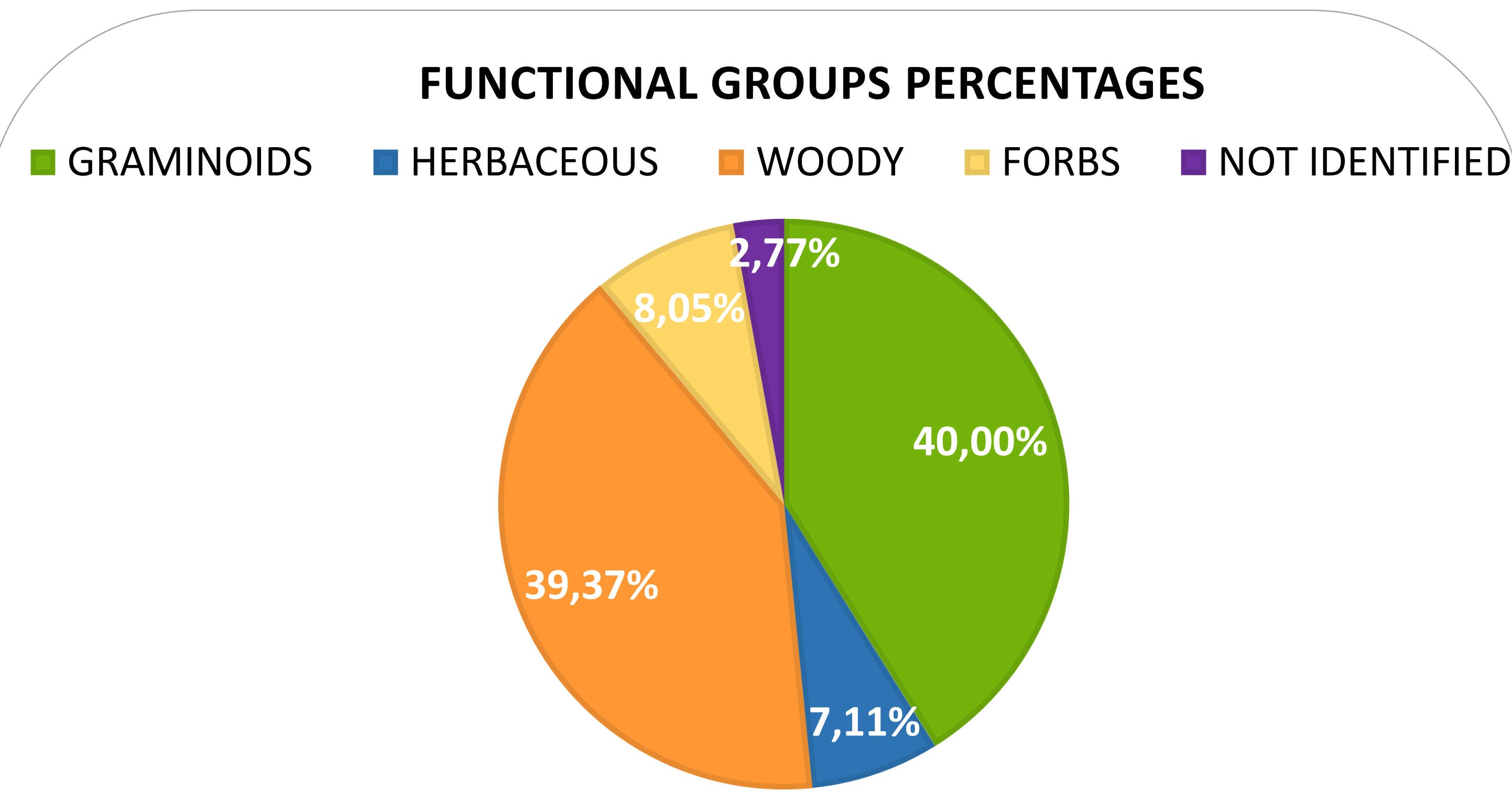


Figure 3. Mean annual diet of red deer. A total of 1546 epidermal fragments were identified, grouped in 69 different taxon. Graminoid and woody plants were the most consumed, being the herbaceous and the forbs the least represented with similar percentages.

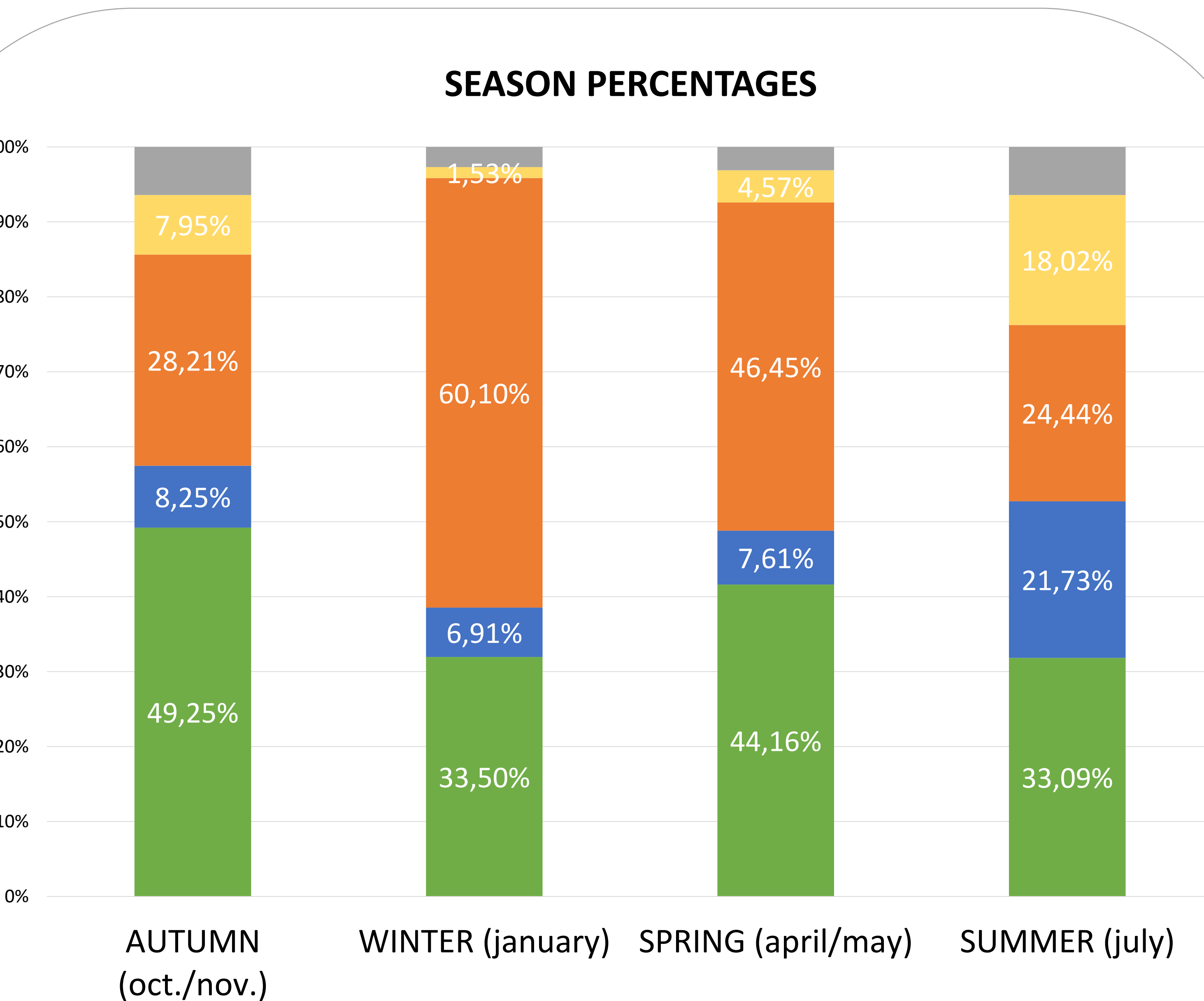


Figure 4. Seasonal variation by functional groups. The highest consumption of woody plants occurs in winter, characterized by *Quercus* sp.. The graminoids constitute a constant percentage during the year but, it is in summer when the herbaceous and forbs are observed the most, corresponding with the vegetative period of the plants.

Table 1. Spearman correlation being \*\*, \*\*\* significant at  $p < 0,01$  i  $p > 0,001$  respectively. NS: no significance

rho	Autumn	Spring	Summer
Winter	0,42***	0,42***	0,11 (NS)
Spring	0,52***		0,3**
Autumn			0,14 (NS)